

1 **In the Claims**

2 Claims 16-23 and 25-58 remain in the application and are listed below.

3
4 1.-15. (Cancelled)

5
6 16. (Previously Presented) A web content adaptation method
7 comprising:

8 analyzing one or more functions associated with a webpage that is
9 configured for presentation on a first device type, said analyzing being performed
10 by generating one or more function-based object models that represent objects
11 comprising the webpage,

12 said objects comprising:

13 one or more basic objects associated with the webpage, basic
14 objects comprising a smallest information body that cannot be
15 further divided, said one or more basic objects being configured to
16 perform one or more of the following functions: (1) providing
17 semantic information, (2) navigating to other objects, (3) providing a
18 visual effect on the webpage, and (4) enabling user interaction; and

19 one or more composite objects associated with the webpage,
20 composite objects comprising objects that contain other objects, said
21 one or more composite objects having a clustering function that is
22 associated with a webpage author's intention; and

1 based on said analyzing, adapting the webpage for presentation on a second
2 device type that is different from the first device type.

3
4 17. (Original) The method of claim 16, wherein said generating of the
5 one or more function-based object models comprises generating multiple function-
6 based object models each of which being generated as a function of multiple
7 different properties that can be associated with associated objects.

8
9 18. (Original) The method of claim 16, wherein said generating of the
10 one or more function-based object models comprises generating at least one
11 function-based object model for a basic object, said at least one function-based
12 object model being generated as a function of one or more of the following
13 properties: (1) a presentation property that defines a way in which the object is
14 presented, (2) a semantic property associated with content of an object, (3) a
15 decoration property pertaining to an extent to which the basic objects serves to
16 decorate the webpage, (4) a hyperlink property pertaining to an object to which the
17 basic object points via a hyperlink, and (5) a interaction property pertaining to an
18 interaction method of the basic object.

1 19. (Original) The method of claim 16, wherein said generating of the
2 one or more function-based object models comprises generating at least one
3 function-based object model for a composite object, said at least one function-
4 based object model being generated as a function of one or more of the following
5 properties: (1) a clustering relationship property pertaining to a relationship among
6 root children of the composite object, and (2) a presentation relationship property
7 pertaining to a presentation order associated with the root children of the
8 composite object.

9
10 20. (Original) The method of claim 16, wherein said generating of the
11 one or more function-based object models comprises generating at least one
12 specific function-based object model that serves to categorize an object.

13
14 21. (Original) The method of claim 20, wherein said generating of said
15 at least one specific function-based object model comprises, for a basic object,
16 generating said at least one specific function-based object model based upon
17 properties of the basic object and properties associated with any father or brother
18 objects.

19
20 22. (Original) The method of claim 20, wherein said generating of said
21 at least one specific function-based object model comprises, for a composite
22 object, generating said at least one specific function-based object model based
23 upon properties of the composite object and any of its root children.
24
25

1 23. (Original) The method of claim 20, wherein said generating of said
2 at least one specific function-based object model comprises using a rule-based
3 decision tree to ascertain a category of an object.

4
5 24. (Cancelled)

6
7 25. (Previously Presented) One or more computer-readable storage
8 media having computer-readable instructions thereon which, when executed by
9 one or more processors, cause the one or more processors to implement the
10 method of claim 16.

11
12 26. (Previously Presented) A web content adaptation method
13 comprising:

14 analyzing one or more functions associated with a webpage by generating
15 one or more function-based object models that represent objects comprising the
16 webpage,

17 said objects comprising:

18 one or more basic objects associated with the webpage, basic
19 objects comprising a smallest information body that cannot be
20 further divided, said one or more basic objects being configured to
21 perform one or more of the following functions: (1) providing
22 semantic information, (2) navigating to other objects, (3) providing a
23 visual effect on the webpage, and (4) enabling user interaction; and

24 one or more composite objects associated with the webpage,
25 composite objects comprising objects that contain other objects, said

one or more composite objects having a clustering function that is associated with a webpage author's intention; and based on said analyzing, adapting the webpage for presentation on a device.

27. (Original) The method of claim 26, wherein said adapting comprises doing so in view of one or more networking conditions.

28. (Original) The method of claim 26, wherein said adapting comprises doing so in view of one or more user preferences.

29. (Currently Amended) One or more computer-readable storage media having computer-readable instructions thereon which, when executed by one or more processors, cause the one or more processors to:

analyze one or more functions associated with a webpage that is configured for presentation on a first device type by generating one or more function-based object models that represent objects comprising the webpage,

said objects comprising:

one or more basic objects associated with the webpage, basic objects comprising a smallest information body that cannot be further divided, said one or more basic objects being configured to perform one or more of the following functions: (1) providing semantic information, (2) navigating to other objects, (3) providing a visual effect on the webpage, and (4) enabling user interaction; and

one or more composite objects associated with the webpage, composite objects comprising objects that contain other objects, said

one or more composite objects having a clustering function that is associated with a webpage author's intention;

said generating of the one or more function-based object models comprising generating at least one function-based object model for a basic object, said at least one function-based object model being generated as a function of one or more of the following properties: (1) a presentation property that defines a way in which the object is presented, (2) a semanteme property associated with content of an object, (3) a decoration property pertaining to an extent to which the basic objects serves to decorate the webpage, (4) a hyperlink property pertaining to an object to which the basic object points via a hyperlink, and (5) an interaction property pertaining to an interaction method of the basic object;

said generating further comprising generating at least one function-based object model for a composite object, said at least one function-based object model for the composite object being generated as a function of one or more of the following properties: (1) a clustering relationship property pertaining to a relationship among root children of the composite object, and (2) a presentation relationship property pertaining to a presentation order associated with the root children of the composite object;

said generating further comprising generating at least one specific function-based object model that serves to categorize an object by:

for a basic object, generating said at least one specific function-based object model based upon properties of the basic object and properties associated with any father or brother objects; and

for a composite object, generating said at least one specific

1 function-based object model based upon properties of the composite object
2 and any of its root children; and

3 based upon an analysis of said one or more functions, adapt the webpage
4 for presentation on a second device type that is different from the first device type.

5
6 30. (Previously Presented) The one or more computer-readable storage
7 media of claim 29, wherein said instructions cause the one or more processors to
8 adapt the webpage for presentation on a WAP (Wireless Application Protocol)-
9 enabled device.

10
11 31. (Original) A web content adaptation method comprising:
12 receiving multiple web pages that are configured for display on a first
13 device type;

14 processing the multiple web pages to provide multiple different objects
15 associated with the webpages, individual objects having one or more properties
16 relating to functions of the individual object;

17 applying one or more rules to the objects sufficient to provide multiple
18 different webpages that are configured for display on a second device type that is
19 different from the first device type.

20
21 32. (Original) The method of claim 31, wherein the individual objects
22 can have a presentation property that defines a way in which the object is
23 presented.

1 33. (Original) The method of claim 31, wherein the individual objects
2 can have a semanteme property associated with the content of an object.

3
4 34. (Original) The method of claim 31, wherein the individual objects
5 can have a decoration property pertaining to the extent to which an object serves to
6 decorate a webpage.

7
8 35. (Original) The method of claim 31, wherein the individual objects
9 can have a hyperlink property pertaining to an object to which another object
10 points via a hyperlink.

11
12 36. (Original) The method of claim 31, wherein the individual objects
13 can have a interaction property pertaining to an interaction method of an object.

14
15 37. (Original) The method of claim 31, wherein the individual objects
16 can have a clustering relationship property pertaining to a relationship among any
17 root children of an object.

18
19 38. (Original) The method of claim 31, wherein the individual objects
20 can have a presentation relationship property pertaining to a presentation order
21 associated with any root children of an object.

39. (Original) The method of claim 31, wherein said processing comprises defining a representation of an object that includes any children of said object.

40. (Original) The method of claim 31, wherein said processing comprises assigning a category to one or more objects.

41. (Original) The method of claim 40, wherein said assigning comprises using a rule-based decision tree to ascertain a category for said one or more objects.

42. (Original) The method of claim 40, wherein said assigning comprises assigning a category from a set of object categories comprising: (1) an information object that presents content information, (2) a navigation object that provides a navigation function, (3) an interaction object that provides for user interaction, (4) a decoration object that serves a decoration function, (5) a special function object that performs a defined function, and (6) a page object that is associated with presentation of related information.

43. (Original) A web content adaptation method that adapts web content from one format to another, and which uses multiple function-based object models to do so, where the function-based object models comprise models that pertain to (1) basic objects that comprise a smallest information body that cannot be further divided, and (2) composite objects that comprise objects that can contain other objects.

1
2 44. (Original) The web content adaptation method of claim 43, wherein
3 the function-based object models are generated as a function of one or more
4 properties associated with the objects.
5

6 45. (Original) A system for adapting web content from one format to
7 another comprising one or more function-based object models, individual
8 function-based object models representing objects that are present in a webpage in
9 terms of one or more of an object's functional properties.
10

11 46. (Original) The system of claim 45, wherein one of the properties
12 comprises a presentation property that defines a way in which the object is
13 presented.
14

15 47. (Original) The system of claim 45, wherein one of the properties
16 comprises a semanteme property associated with the content of an object.
17

18 48. (Original) The system of claim 45, wherein one of the properties
19 comprises a decoration property pertaining to the extent to which an object serves
20 to decorate a webpage.
21

22 49. (Original) The system of claim 45, wherein one of the properties
23 comprises a hyperlink property pertaining to an object to which another object
24 points via a hyperlink.
25

1 50. (Original) The system of claim 45, wherein one of the properties
2 comprises a interaction property pertaining to an interaction method of an object.

3
4 51. (Original) The system of claim 45, wherein one of the properties
5 comprises a clustering relationship property pertaining to a relationship among any
6 root children of an object.

7
8 52. (Original) The system of claim 45, wherein one of the properties
9 comprises a presentation relationship property pertaining to a presentation order
10 associated with any root children of an object.

11
12 53. (Previously Presented) Software code embodied on a computer-
13 readable storage medium that implements the system of claim 45.

14
15 54. (Original) A computer architecture for use in adapting web content
16 for display on a computing device, the architecture comprising:

17 an analysis module for receiving at least one webpage and processing the
18 one webpage to produce one or more function-based object models that describe
19 functional properties of objects that are contained in the one webpage;

20 one or more rules modules that contain rules that are to be used to adapt
21 content contained in the webpage; and

22 a content adaptation module configured to process the one or more
23 function-based object models in accordance with one or more rules contained in
24 the one or more rules modules to produce a new web page that has been adapted
25 from the one web page.

1
2 55. (Previously Presented) The computer architecture of claim 54,
3 wherein the content adaptation module is configured to produce a new web page
4 for display on a WAP (Wireless Application Protocol)-enabled device.

5
6 56. (Original) The computer architecture of claim 54, wherein said
7 analysis module is configured to produce function-based object models that
8 pertain to both basic objects and composite objects,

9 basic objects comprising a smallest information body that cannot be further
10 divided; and

11 composite objects comprising objects that contain other objects.
12

13 57. (Original) The computer architecture of claim 56, wherein said
14 analysis module is configured to produce, for basic objects, function-based object
15 models that comprise values associated with the following properties: (1) a
16 presentation property that defines a way in which the object is presented, (2) a
17 semanteme property associated with content of an object, (3) a decoration property
18 pertaining to an extent to which the basic objects serves to decorate the webpage,
19 (4) a hyperlink property pertaining to an object to which the basic object points via
20 a hyperlink, and (5) a interaction property pertaining to an interaction method of
21 the basic object.
22
23
24
25

1 58. (Original) The computer architecture of claim 56, wherein said
2 analysis module is configured to produce, for composite objects, function-based
3 object models that comprise values associated with the following properties: (1) a
4 clustering relationship property pertaining to a relationship among root children of
5 the composite object, and (2) a presentation relationship property pertaining to a
6 presentation order associated with the root children of the composite object.
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25